

### **REMARKS**

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-19 are presently active in this case. The present Amendment amends Claims 1-13 without the introduction of any new matter.

The outstanding Office Action rejected Claims 1-13 under 35 U.S.C. §112, second paragraph, as indefinite. Claims 1 and 10 were rejected under 35 U.S.C. §103(a) as unpatentable over the Applicant's admitted prior art (herein "AAPA") in view of Nakashima et al. (U.S. Patent No. 5,652,611, herein "Nakashima"). Claim 4 was rejected under 35 U.S.C. §103(a) as unpatentable over AAPA in view of Nakashima and Rappette et al. (U.S. Patent No. 6,178,254, herein "Rappette"). Claim 7 was rejected under 35 U.S.C. §103(a) as unpatentable over AAPA in view of Nakashima and Sato (U.S. Patent No. 6,072,636). Claim 13 was rejected under 35 U.S.C. §103(a) as unpatentable over AAPA in view of Nakashima and Hayashi et al. (U.S. Patent No. 6,317,246, herein "Hayashi").

Claims 2, 8, 9, 11 and 12 were indicated as allowable if rewritten in independent form and to overcome the rejection under 35 U.S.C. §112, second paragraph. Applicant acknowledges with appreciation the indication of allowable subject matter.

However, since Applicant considers that independent Claims 1 and 10, from which Claims 2, 8, 9, 11 and 12 depend, defines patentable subject matter, dependent Claims 2, 8, 9, 11 and 12 are maintained in dependent form at the present time.

Initially, Applicant respectfully requests that reference AO cited in the Information Disclosure Statement filed February 4, 2004 be acknowledged as having been considered in the next Office Action. Applicant files hereby a copy of the PTO-1449 form and date-stamped filing receipt thereof.

In response to the Restriction Requirement made final, Claims 14-19, directed to non-elected inventions, are withdrawn. Applicant reserves the right to present claims directed to the non-elected inventions in a divisional application, which shall be subject to the third sentence of 35 U.S.C. §121.<sup>1</sup>

In response of the rejection of Claims 1-13 under 35 U.S.C. §112, second paragraph, Claims 1-13 are amended to correct the noted informalities. In view of amended Claims 1-13, it is believed that all pending claims are definite and no further rejection on that basis is anticipated. If, however, the Examiner disagrees, the Examiner is invited to telephone the undersigned who will be happy to work with the Examiner in a joint effort to derive mutually acceptable language.

In response to the rejection of Claim 5 under 35 U.S.C. §112, second paragraph, the claimed "principal point" of Claim 5 is described in Applicant's disclosure from page 54, line 24 to page 55, line 14. Accordingly, it is believed that the expression "principal point" is clear and that no further rejection under 35 U.S.C. § 112, second paragraph, on that basis is anticipated.

In response to the rejection of Claim 6 under 35 U.S.C. §112, second paragraph, the claimed "on a side closer to the light modulator element" is described in Applicant's disclosure from page 55, lines 15 to page 56, line 6. Therefore, Applicant believes that the above noted expression does not render the claim indefinite and respectfully traverses the rejection.

In response to the rejection of Claims 1 and 10 under 35 U.S.C. §103(a) as unpatentable over AAPA in view of Nakashima, Applicant respectfully traverses the rejection and request reconsideration of the rejection, as next discussed.

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<sup>1</sup> "A patent issuing on an application with respect to which a requirement for restriction under this section has been made ... shall not be used as a reference ... against a divisional application." See also MPEP 804.01.

Briefly recapitulating, Applicant's invention, as recited in independent Claim 1, relates to an optical system for an image display apparatus, including a curvature of field correcting optical system, and an imaging optical system configured to pass a bundle of rays from a light modulator element including light modulator parts arranged one-dimensionally in a first direction, and configured to image a one-dimensional image on an image surface via said curvature of field correcting optical system. The imaging optical system includes at least two anamorphic surfaces each having radii of curvature different in the first direction and a second direction perpendicular to the first direction on an object surface, so that imaging takes place on a single imaging surface for both the first and second directions to thereby form a two-dimensional image on the image surface. Independent Claim 10 recites similar features in the context of an image display apparatus.

As explained in Applicant's Specification at page 5, lines 16-24 and in corresponding Figure 1, Applicant's Claim 1 improves upon conventional optical systems for an image display apparatuses, since imaging on a display surfaces can be performed with a light modulator element that is made out of very small light modulator parts.

Turning now to the applied references, the teachings of AAPA discloses image display appartusses displaying one-dimensional images on a display surface by use of a light modulation element, and the one dimensional image is deflected and scanned at high speed.<sup>2</sup> AAPA, however, fails to teach or suggest Applicant's claimed at least two anamorphic surfaces having radii of curvature different in the first direction and a second direction which is perpendicular to the first direction on an object surface. In particular, and as acknowledged by the outstanding Office Action, the AAPA teachings fail to teach or suggest the claimed

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<sup>2</sup> See Applicant's Specification at page 4, lines 3-9.

optical system comprising at least two anamorphic surfaces<sup>3</sup> and also fails to teach or suggest a curvature of field correcting optical system.

The outstanding Office Action uses the reference Nakashima to reject Applicant's Claims 1 and 10, and assumes that it would have been obvious to modify AAPA by importing these features from Nakashima to arrive at Applicant's claimed invention. Applicant respectfully submits, however, that Nakashima fails to disclose the above feature related to a curvature of field correcting optical system, as next discussed.

Nakashima discloses a laser diode light that passes through a lens 45, having a first surface 45a and a second surface 45b. Nakashima recites that the first and second surface are "of an anamorphic configuration having different radii of curvature in the primary scanning direction parallel to the direction of rotation of the rotating mirror 42 and in the secondary scanning direction perpendicular to the primary scanning direction." Further, Nakashima states that "An optical axis of the lens 45 is in alignment with that of the laser diode 47 so that the major and minor axes of the elliptically shaped beam from the laser diode 47 may extend in the primary and secondary directions, respectively." Reading Nakashima, a person of ordinary skill in the art would understand that an optical lens enabling the major and minor axes of the elliptically shaped beam of a laser diode extend in the primary and secondary directions, as taught by Nakashima, *is not* a curvature of field correcting optical system. Therefore, even if the combination of AAPA and Nakashima disclosures is assumed to be proper, the combination fails to teach every element of the claimed invention. Specifically, the combination fails to teach the claimed a curvature of field correcting optical system. Accordingly, Applicant respectfully traverses, and requests reconsideration of, this rejection based on these patents.<sup>4</sup>

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<sup>3</sup> See the outstanding Office Action at page 4, lines 8-10.

<sup>4</sup> See MPEP 2142 stating, as one of the three "basic criteria [that] must be met" in order to establish a *prima facie* case of obviousness, that "the prior art reference (or references when combined) must teach or suggest all the claim limitations," (emphasis added). See also MPEP 2143.03: "All words in a claim must be considered in

Applicant respectfully traverses the obviousness-type rejection based on the AAPA teachings and Nakashima because there is insufficient evidence for a motivation to modify AAPA's image display apparatus using a light modulator element by incorporating Nakashima's first and second lens surfaces 45a and 45b for an optical scanning system, for the following reasons.<sup>5</sup>

The outstanding Office Action states that the proposed modification would have been obvious "to provide an optical system with two anamorphic surfaces each having radii of curvature which are different on an object surface in the first direction and a second direction which is perpendicular to the first direction."<sup>6</sup> The record, however, fails to provide the required *evidence* of a motivation for a person of ordinary skill in the art to perform such modification. While Nakashima may provide a reason for using first and second lens surfaces for an optical scanning system employing a point light source,<sup>7</sup> Nakashima fails to teach or suggest why a person of ordinary skill in the art would be motivated to incorporate such a feature in an optical system for an image display bundle of rays from a light modulator element such as the one disclosed in AAPA. In particular, Nakashima uses first and second lens surfaces in order to reduce the angle of incidence  $T$  without increasing the distance between the rotating mirror 42 and the light source.<sup>8</sup> Nakashima, however, does not suggest that first and second lens surfaces for correcting the laser beam shape would work in a light

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judging the patentability of that claim against the prior art."

<sup>5</sup> See MPEP 2143.01 stating "[o]bviousness can only be established by combining or modifying the teaching of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art," (citations omitted). See also MPEP 2144.08 III stating that "[e]xplicit findings on motivation or suggestion to select the claimed invention should also be articulated in order to support a 35 U.S.C. 103 ground of rejection. . . . Conclusory statements of similarity or motivation, without any articulated rational or evidentiary support, do not constitute sufficient factual findings."

<sup>6</sup> See the outstanding Office Action at page 4, lines 15-17.

<sup>7</sup> See Nakashima in the Abstract and at column 3, lines 54-65.

<sup>8</sup> See Nakashima at column 11, lines 50-55 and in corresponding Figure 13a.

modulator element for image projection. Nakashima does not state that optical scanning system needs to "match the image surfaces."<sup>9</sup>

Furthermore, it is not clear from the record how Nakashima's first and second lens surfaces could be incorporated into the teachings of AAPA. Under such a modification, the first and second lens surfaces with a laser beam passing through would have to match images on a single imaging surface in two different directions. Such modification would require a substantial reconstruction or redesign of the elements of AAPA, and/or would change the basic principle of operation of AAPA. There is no evidence that a person of ordinary skill in the art would be motivated to perform such changes and redesign.<sup>10</sup>

The teachings of AAPA and Nakashima, therefore, do not provide the motivation to perform the proposed modification of AAPA. In other words, an attempt to bring in the isolated teaching of Nakashima's first and second lens surfaces for shaping the light of a laser diode<sup>11</sup> into AAPA would amount to improperly picking and choosing features from different references without regard to the teachings of the references as a whole.<sup>12</sup> While the required evidence of motivation to combine need not come from the applied references themselves, the evidence must come from *somewhere* within the record.<sup>13</sup> In this case, the record fails to support the proposed modification of the teachings of AAPA.

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<sup>9</sup> See the outstanding Office Action at page 4, lines 18-19.

<sup>10</sup> See In re Ratti, 270 F.2d 810, 813, 123 USPQ 349, 352 (reversing an obviousness rejection where the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate.")

<sup>11</sup> See Nakashima at column 10, lines 22-25.

<sup>12</sup> See In re Ehrreich 590 F.2d 902, 200 USPQ 504 (CCPA, 1979) (stating that patentability must be addressed "in terms of what would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the sum of all the relevant teachings in the art, not in view of first one and then another of the isolated teachings in the art," and that one "must consider the entirety of the disclosure made by the references, and avoid combining them indiscriminately.")

<sup>13</sup> See In re Lee, 277 F.3d 1338, 1343-4, 61 USPQ2d 1430 (Fed. Cir. 2002) ("The factual inquiry whether to combine references ... must be based on objective evidence of record. ... [The] factual question of motivation ... cannot be resolved on subjective belief and unknown authority. ... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion").

In rejecting a claim under 35 U.S.C. §103(a), the U.S.P.T.O. must support its rejection by "substantial evidence" within the record,<sup>14</sup> and by "clear and particular" evidence<sup>15</sup> of a suggestion, teaching, or motivation to combine the teachings of different references. As discussed above, there is no substantial evidence, nor clear and particular evidence, within the record of motivation for modifying the teachings of AAPA by incorporating Nakashima's first and second lens surfaces. Without such motivation and absent improper hindsight reconstruction,<sup>16</sup> a person of ordinary skill in the art would not be motivated to perform the proposed modification, and Claims 1 and 10 are believed to be non-obvious and patentable over the applied references.

In response to the remaining obviousness-type rejections of Claims 4, 7 and 13 under 35 U.S.C. §103(a), Applicant respectfully traverses these rejections, because none of Rappette, Sato or Hayashi, considered alone or together in any proper combination with the AAPA and/or Nakashima cure the above noted deficiencies of the AAPA and Nakashima. Thus, as the rejection of independent Claims 1 and 10 is believed to be overcome, as discussed above, and as Claims 4, 7 and 13 all depend upon Claim 1 or 10 respectively, the rejections applied to these claims are believed to be overcome and Applicant request reconsideration of the rejections of Claims 4, 7 and 13 under 35 U.S.C. §103(a).

Consequently, in view of the present Amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in

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<sup>14</sup> See In re Gartside, 203 F3d 1305, 53 USPQ2d 1769 (Fed. Cir. 2000) (holding that, consistent with the Administrative Procedure Act at 5 USC 706(e), the CAFC reviews the Board's decisions based on factfindings, such as 35 U.S.C. § 103(a) rejections, using the 'substantial evidence' standard because these decisions are confined to the factual record compiled by the Board.)

<sup>15</sup> See In re Dembiczak, 175 F3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("We have noted that evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved, although 'the suggestion more often comes from the teachings of the pertinent references.' The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular." (emphasis added).

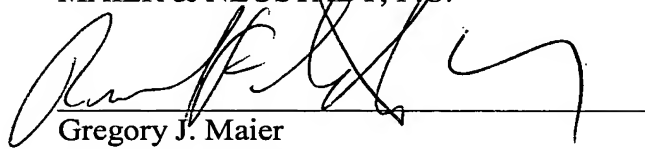
<sup>16</sup> See MPEP 2141, stating, as one of the tenets of patent law applying to 35 USC 103, that "[t]he references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention."

condition for formal Allowance. A Notice of Allowance for Claims 1-13 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

Respectfully submitted,

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